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TACOM LCMC INDUSTRIAL BASE ENGINEERING SUPPORT - Commanders' Conference

TARDEC, Engineering Business Group July, 2011

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Report Documentation Page

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Provide an overview of the U.S. Army Tank **Automotive Research, Development and Engineering Center's (TARDEC's) Industrial Base Database and the Sustainment Engineering Risk** Assessment.





Agenda



- Industrial Base Environment
- TARDEC Industrial Base Support
- Industrial Base Culture Change
- IBIT/IBET Mission
- TARDEC's DMSMS Contract
- Industrial Base Database
- Sustainment Engineering Risk
 Assessment (SERA)



Ground Equipment Support



Escalating Support Challenges (production & sustainment)

- Increasing O&S requirements (65-80% of Life Cycle Cost)
- Equipment condition due to deployment s (Degradation)
- Obsolescence of Army systems due to age (25-40 yrs)
- Loss/change of manufacturing sector for COTS (Support Strategy Risk)
- Inconsistent lifecycle sustainment policy & planning (Organic vs CLS vs TDPs?)
- Inconsistent engineering/design influence for sustainment (Poor Planning)
- Stove-piped industrial base issue investigation & resolution (ILSC & PM versus LCMC)
- Negative economic trends impacting commercial industrial base (Industrial Base Risk)
- Environmental and safety impacts

Result = Increase in Re-active Support Issues
Solution = Pro-active Logistics Engineering Support



TARDEC Industrial Base Engineering Support



Industrial Base Engineering Team (IBET)

TARDEC Engineers:

- Support LCMC Industrial Base requirements
- Provide investigation
- Leverage experience, capability & expertise
- Provide quick response to problems
- Support proactive management
- Improve LCMC communication
- Apply disciplined processes
- Implement LCMC wide solutions (standardization)

TARDEC POC: IBET Team Leader, Mr. Tony Mitek



Industrial Base Culture Change



Past Support = Component or platform focus

- Lack of standardized LCMC strategies
- Separate platform support
- Focus on select STS & OEM supported platforms
- Individual "isolated" platform solutions
- LCMC and experience was not leveraged or shared
- No pro-active Industrial Base or DMSMS management

<u>Current/Future Support</u> = LCMC consideration & application

- Industrial Base Integration Team (IBIT) Process (2007) = LCMC focus
- Leverages & shares common/existing LCMC solutions & capability
- Interfaces with broad commercial industrial base (DMSMS contract)
- Pro-active LCMC Industrial Base monitoring (capability & risk)
- Leverages & cultivates non-traditional sources of capability
- Documents IBIT issues and provides user access (IBIT Console)



IBIT/IBET Mission

One

Team

One Vision



Testing, Verification and Validation

Operational Impact Analyses

Reverse Engineering

Strategic Materials

DMSMS Management & Operation

Tracking of Bills of Material and Technical Data Packages

Industrial Capability Assessments

Defense Priorities Allocation System

Industrial Labor Relations

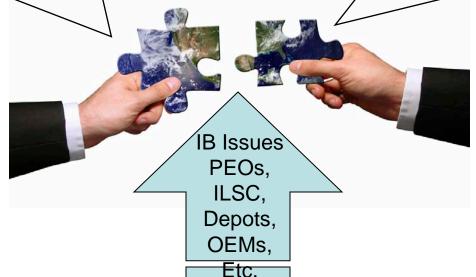
Production Readiness Review

Surge and Contingency Operations

Committee on Foreign Investment in the United States (CFIUS)

Industrial Base Engineering Team IBET





Industrial Base Management Group <u>IBMG</u>



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TARDEC's DMSMS Contract



Diminishing Manufacturing Sources and Material Shortages



- Automation Alley, Michigan's largest technology business association, is currently on contract with TARDEC to provide industrial base support for the TACOM LCMC Diminishing Manufacturing Sources and Material Shortages (DMSMS) program
- The contract with Automation Alley has created a capability to establish commercial industrial base visibility and communicate TACOM LCMC requirements with companies across the United States
- Current Efforts:
 - Industrial Base Data & Communication Tool
 - TACOM LCMC Industrial Base Health/Risk Assessments
 - Sustainment Engineering Risk Assessments (SERA) of TACOM Equipment
 - Cadmium/Hex Chrome Replacement (High Purity Aluminum) Capability
 - Advanced Aviation Forward Area Refueling System (AAFARS)Tech Data Development
 - Common Automotive/TACOM LCMC Industrial Base Sector Study

TARDEC DMSMS Contract Officer's Representative (COR), Mr. Stan Michener



Industrial Base Database



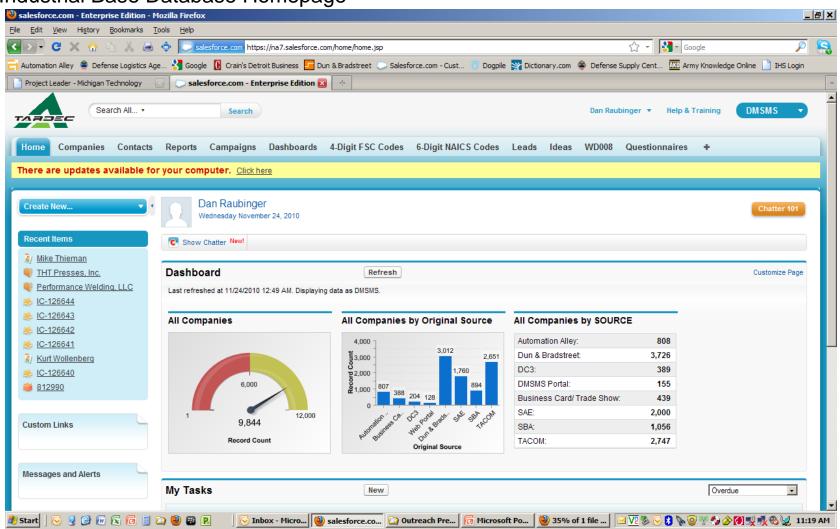
LCMC Vendor Database

- TACOM LCMC Vendor Industrial Database (Total 20,000 + vendors)
 - Warren
 - Natick
 - RIA
 - DLA
- Identification of TACOM's Sustainment Industrial Base (Vendors)
- Communication with Industrial Base capability
- Search capability (database and nation-wide)
- Sector studies
- Bi-annual health assessments
- Web Portal Access
- Geo-Tech visual tool solution
- •Trend analysis





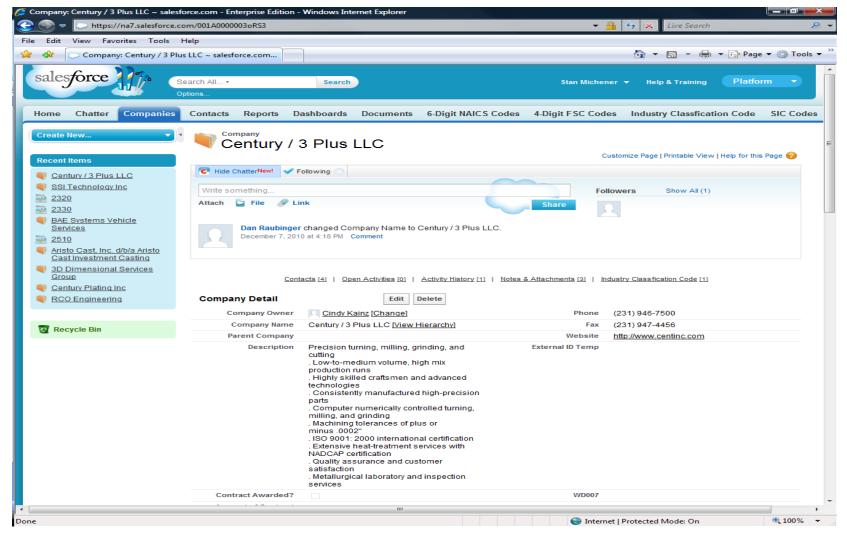
Industrial Base Database Homepage







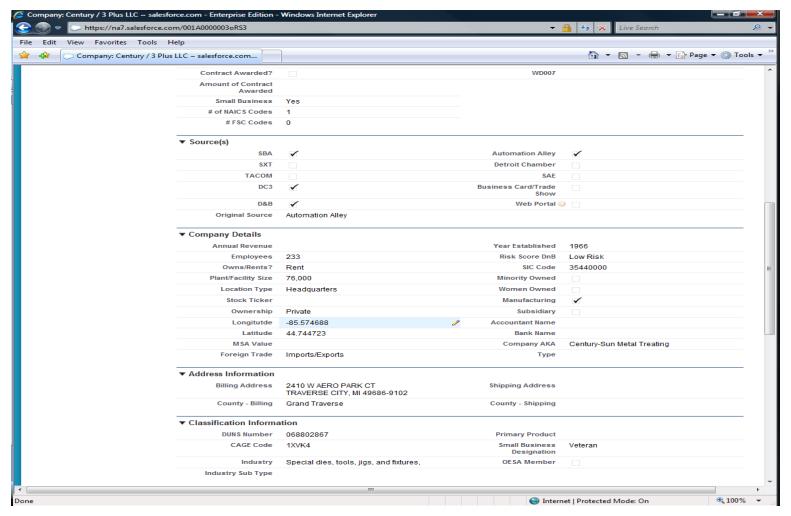
Company Search – provides relevant company information







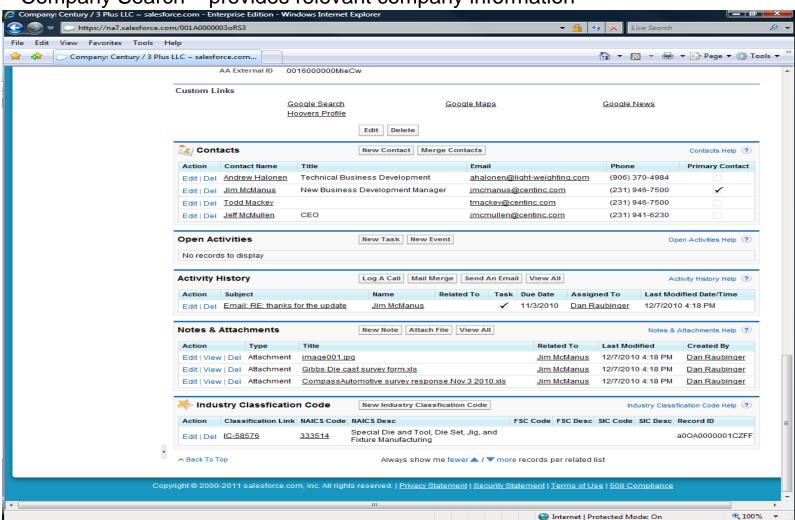
Company Search – provides relevant company information







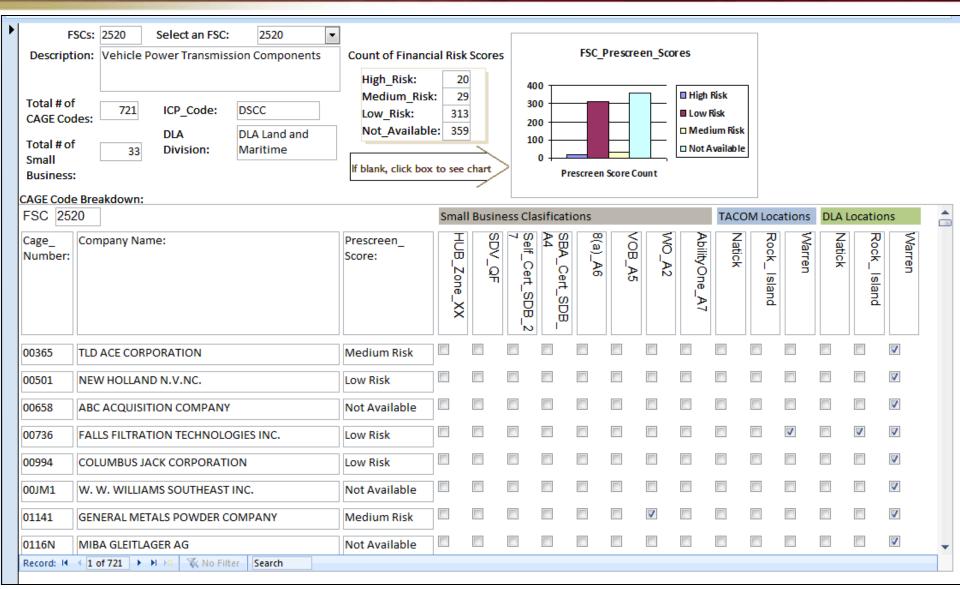
Company Search – provides relevant company information





TACOM Industrial Base Health Assessments







Sustainment Readiness Reviews



AR 700 – 127 (ILS Mgt) Mandates Post-fielding Sustainment Readiness Reviews (SRR)

- Should Occur at least every 5 years after IOC.
- Ensure that the support system is working effectively throughout the life cycle.
- Measure how well the support system performs against the plan (supportability strategy).
- Recommend adjustment to the support system when not achieving the desired readiness / availability outcomes.
- Recommend design changes based upon Reliability, Maintainability, and Supportability (RMS) data.
- Review unresolved material release conditions.
- Optimize program resources.
- Review transition plans from interim contractor support to Organic Support.
- Report and resolve outstanding operational and developmental performance deficiencies TECHNOLOGY DRIVEN, WARFIGHTER FOCUSED.



Sustainment Engineering Risk Assessment (SERA)



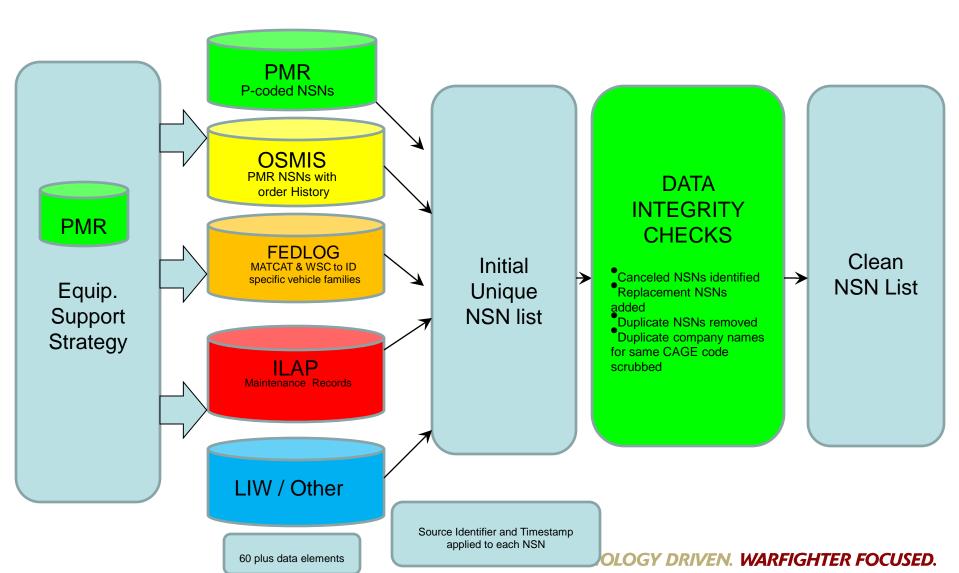
SERA Objective

- Proactively evaluate equipment data and identify industrial base related obsolescence and sustainment risk.
- Leverages all existing available data (support strategy and usage).
- •Identify and document system, platform, or vehicle level obsolescence evidence.
- Provide platform or equipment managers factual documentation necessary to forecast resources via Army Working Capital Fund (AWCF) Sustainment System Technical Support (SSTS), and plan corrective actions and material change efforts.



Data Sources

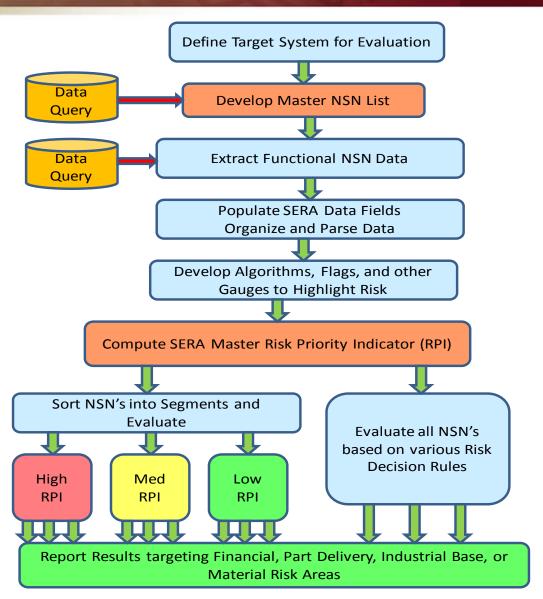






Process







Sustainment Analysis



Weight Factor	Flag Description	Risk Condition
5.0	Single or no CAGE Code	1: <=1 CAGE Code
5.0	PBO 6-Month	1: Y
4.0	Zero Balance with Due Out	1:ZBAL="Y"and OH<0.5*RO
3.5	Acquisition Advice Code	1: AAC= Y,V,N,X,T, Inactive or Nomen = Inactive
3.5	Top 15% CWT	1: >= top 15% in latest year
3.5	Warehouse OH Stock < RO	1: OH <ro< td=""></ro<>
3.0	Zero Stock with Recent Demand	1: OH=0 with Dmd in last 2 yrs
3.0	No Recent Demand	1: OSMIS & ILAP=0 in last 2 yrs
3.0	D&B High Risk Flag	1: Y
2.5	OCONUS Only CAGE Code	1: All CAGE Codes(>0) = OCONUS
2.5	Top 15% Closed Maint Workorder	1: >= top 15%
2.5	Top 15% Open Maint W/O in past 12M	1: >top 15%
2.5	Readiness Driver	1: Y
2.5	Technical Data Availbility	AMC/AMSC & DAC
2.0	Closed Maint Workorder	1:>0
2.0	Open Maint W/O in past 12M	1:>0
2.0	CWT Increasing	1:Latest FY >1.1*Prev FY AND Latest FY > Median
2.0	Recent Back Order (60 day)	1: Y
2.0	Hazardous Materials	HMIC, HCC, & characterisitcs



48 max

Sustainment Analysis







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		NOTE: C-	+ Oudou 4) Doorsoois - DDI - 2) Doorso	l Hlk B-l							
RPI (1.000 Scale)	Priority Indicator				NOMENCI ATURE	CON/	AMDF UNIT	Unit Price	Count of	CAGE Code	CAGE Code Exclusion Facto
		FSC	FSC Group Description	INIIN	NOWENCLATURE	REP	PRICE	Flag	CAGE CODES	riag	exclusion Facto
0.938	45	2815	Diesel Engines and Components	01-523-6667	ENGINE,DIESEL	R	\$32,685.00	1	1	1	1
0.938	45	2520	Vehicle Power Transmission Components	01-435-0408	PROPELLER SHAFT WIT	С	\$619.00	1	1	1	1
0.833	40	2940	Engine Air and Oil Filters - Nonaircraft	01-514-2457	FILTER ELEMENT,INTA	С	\$73.18	1	1	1	1
0.771	37	2520	Vehicle Power Transmission Components	01-347-7646	TRANS ASSY W CONTAI	R	\$11,065.00	1	1	1	1
0.771	37	2530	Vehicle Brake Steering Axle Wheel Components	01-327-1350	STEERING GEAR	С	\$905.00	1	2	0	1
0.729	35	2520	Vehicle Power Transmission Components	01-505-7556	AXLE ASSEMBLY,AUTOM	R	\$27,342.00	1	2	0	1
0.729	35	6680	Liquid-Gas-Motion Measuring Instruments	01-540-3074	METER-RECORDER,TIME	С	\$2,048.00	1	1	1	1
0.729	35	2930	Engine Cooling Sys Comps - Nonaircraft	01-331-2987	RADIATOR,ENGINE COO	С	\$1,950.00	1	1	1	1
0.729	35	4330	Centrifugals Separators and Filters	01-538-9923	PARTS KIT,FLUID PRE	С	\$415.00	1	1	1	1
0.729	35	5330	Packing and Gasket Materials	01-150-9812	GASKET AND SEAL SET	С	\$88.23	1	2	0	1
0.729	35	6220	Electric Vehicular lights and Fixtures	01-495-2851	LIGHT,WARNING	С	\$36.89	1	1	1	1
0.729	35	2590	Miscellaneous Vehicular Components	00-778-0324	TRAILER COUPLING,TE	С	\$19.61	1	4	0	1
0.708	34	2815	Diesel Engines and Components	01-479-4199	ENGINE,DIESEL	R	33,275 00		3	0	1
0.708	34	2920	Engine Electrical Sys Comps Nonaircraft	01-517-1792	MODULATOR ASSEMBLY,	С	, 1,412.00	1	1	1	1
0.708	34	7025	ADP Input/Output and Storage Devices	01-509-8642	DATA ENTRY UNIT		\$106.29	1	4	0	1
0.708	34	5330	Packing and Gasket Materials	01-319-2137	GASKET	C	\$32.59	1	2	0	1
0.688	33	4710	Pipe and Tube	01-331-6720	TUBE ASSEMBLY,METAL	С	\$119.85	1	1	1	1
	0.938 0.938 0.833 0.771 0.771 0.729 0.729 0.729 0.729 0.729 0.729 0.729 0.729 0.708 0.708 0.708	RPI (1.000 Scale) Priority Indicator 0.938 45 0.938 45 0.833 40 0.771 37 0.772 35 0.729 35 0.729 35 0.729 35 0.729 35 0.729 35 0.729 35 0.729 35 0.729 35 0.708 34 0.708 34 0.708 34 0.708 34 0.708 34	RPI (1.000 Scale) Priority Indicator 0.938 45 2815 0.938 45 2520 0.833 40 2940 0.771 37 2520 0.772 35 2520 0.729 35 6680 0.729 35 4330 0.729 35 5330 0.729 35 6220 0.729 35 2590 0.729 35 2590 0.708 34 2815 0.708 34 2920 0.708 34 5330	RPI	Priority Indicator	Priority Indicator	RPI	Priority indicator Prority indicator Proceedings Proceeding Process Proces	Priority Indicator FSC FSC Group Description Niln NOMENCLATURE CONF AMDF UNIT Unit Price Flag PRICE Fl	Priority Indicator	Ref Priority Indicator PSC PSC Group Description NIIN NOMENCLATURE CON/ REP AMD FUNIT COUNT CAGE COde Flag Count of Flag

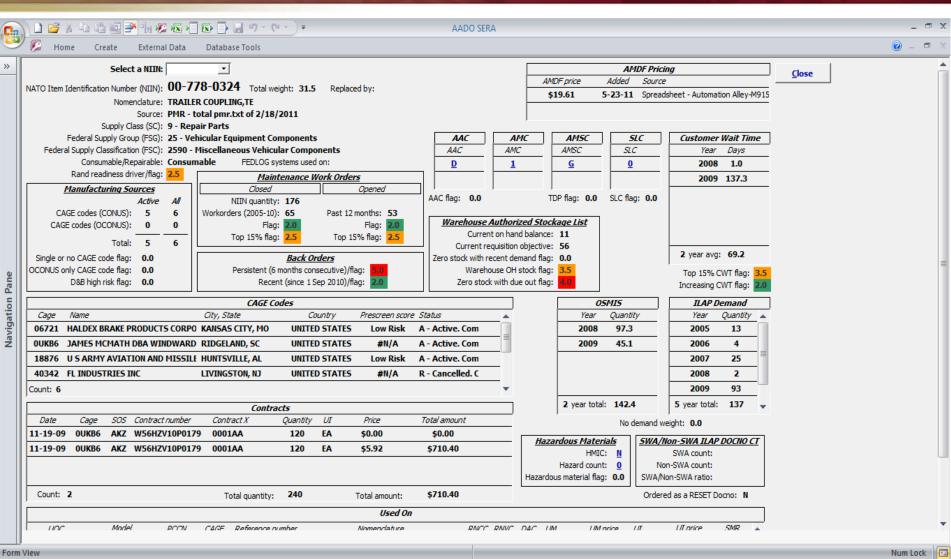
All Data Elements & Flags

All Repair Parts / NSNs



MS Access Reports



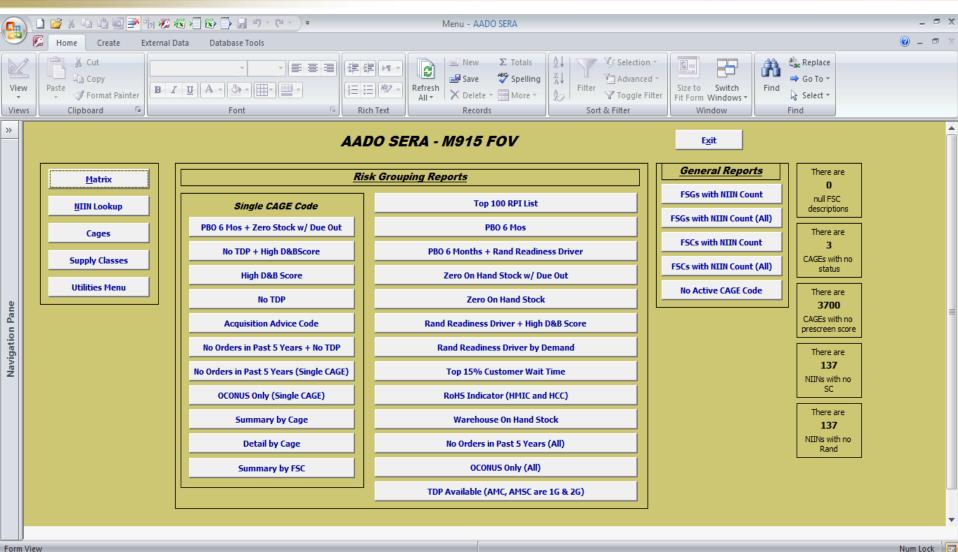


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MS Access Reports







Summary



Results from SERA

- Evaluate all known support risks
- Document fact-based evidence of risk
- Provide data for platform and / or strategic manager use
- Allow managers to tailor risk factors
- Could support Sustainment health Metrics





Questions





BACKUP



IBIT/IBET Mission



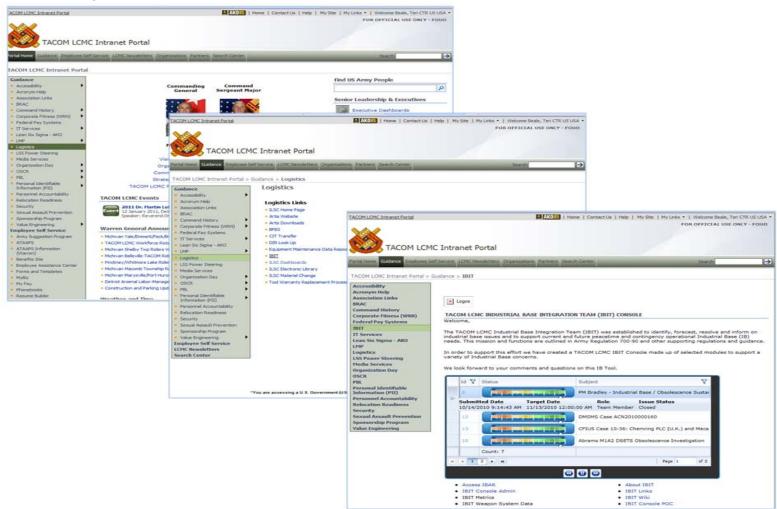
LCMC IBIT Console/Database

- Operational 08/2010
- User has direct access from TACOM LCMC Portal
- Captures LCMC industrial base issues
- User Inputs Industrial Base Action Report (IBAR)
- Inputs can be either "information only" or "action requested"
- Provides visibility of LCMC wide issues, requirements or data
- Supports shared LCMC investigation/resolution
- Promotes standardization Across LCMC
- Provides LCMC historical data





Accessing the IBIT Console







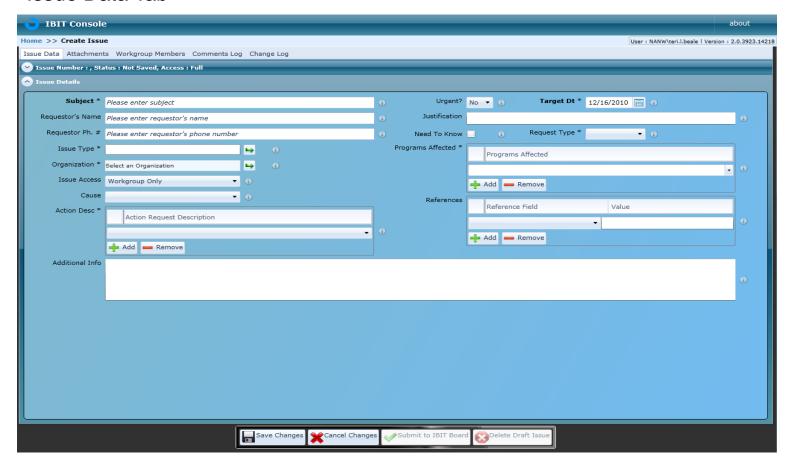
Using the IBIT Console – Homepage







Issue Data Tab







Workgroup Member Tab

